

What is claimed is:

1 1. In a VCT system having a phaser for adjusting an angular relationship between a crank
2 angle of the crank shaft and a cam angle of a cam shaft, the system further has a
3 controller adapted to determine the angular relationship based on equally spaced
4 teeth distributed upon the circumference of at least one tooth wheel coupled to
5 either the crank shaft or the cam shaft, a method comprising the steps of:

6 a) providing a tooth wheel having a physically non-symmetrical tooth distribution on the
7 circumference of the wheel; and

8 b) adjusting the physically non-symmetrical tooth distribution into a symmetrical tooth
9 distribution for further processing by the controller.

1 2. In a VCT device having a phaser for adjusting an angular relationship between a crank
2 angle of the crank shaft and a cam angle of a cam shaft, the system further has a
3 controller adapted to determine the angular relationship based on equally spaced
4 teeth distributed upon the circumference of the crank shaft and the cam shaft
5 respectively, a method comprising the steps of:

6 providing a crank tooth wheel having known tooth distribution;

7 providing a cam tooth wheel having known tooth distribution; and

8 using the controller for adjusting values known to the controller as needed.

1 3. The device of claim 2, wherein the using step comprises running a cam pulse interrupt
2 subroutine for determining a first set of adjusted values.

1 4. The device of claim 2, wherein the using step comprises running a crank pulse interrupt
2 subroutine for determining a second set of adjusted values.

1 5. The device of claim 2, wherein the crank tooth wheel having known tooth distribution
2 comprises symmetric tooth distribution.

1 6. The device of claim 2, wherein the crank tooth wheel having known tooth distribution
2 comprises non-symmetric tooth distribution.

1 7. The device of claim 2, wherein the cam tooth wheel having known tooth distribution
2 comprises symmetric tooth distribution.

1 8. The device of claim 2, wherein the cam tooth wheel having known tooth distribution
2 comprises non-symmetric tooth distribution.